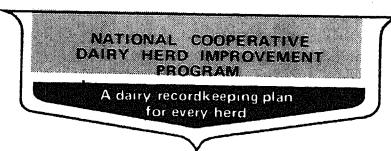


Dairy Herd Improvement Letter

Vol. 53, No. 1



ARS-NE-60-8

RETURN TO GOV. DOCUMENTS CLE

Issued June 1977

Dairy Herd Improvement Letter

NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM PARTICIPATION REPORT, JANUARY 1, 1977 1/

The National Cooperative Dairy Herd Improvement Program (NCDHIP) is a composite of the Official Dairy Herd Improvement (Official DHI), Dairy Herd Improvement Registry (DHIR), Owner-Sampler, Alternate AM-PM, Commercial, Weigh-a-Day-a-Month (WADAM), and other unofficial dairy recordkeeping plans.

On January 1, 1977, the program included 55,659 herds with 3,691,364 cows, or 33.5 percent of the Nation's dairy cow population. The cows were in 1,028 associations with 2,266 supervisors. Official DHI and DHIR included 33,755 herds and 2,581,164 cows, averaging 76.5 cows per herd. DHIR alone included 3,510 herds and 266,252 cows, averaging 75.9 cows per herd. Owner-Sampler included 17,703 herds and 742,348 cows, averaging 41.9 cows per herd. Similar figures for Alternate AM-PM were 2,945 herds, 161,955 cows, and 55.0 cows per herd. The other unofficial plans included 1,256 herds and 205,897 cows, averaging 163.9 cows per herd.

The percentage of the Nation's cows enrolled in Official DHI and DHIR was 23.4, which is up from 22.0 percent in 1976. DHIR alone enrolled 2.4 percent of the Nation's cows. Owner-Sampler cows were 6.7 percent of the Nation's cows in 1976, and Alternate AM-PM increased slightly to 1.5 percent. Enrollment in other unofficial plans comprised 1.9 percent of the Nation's cows, an increase of 0.1 percent from 1976.

Table 1 lists those States that have State Dairy Herd Improvement Associations and those that hold membership in the National Dairy Herd Improvement Association, Inc. (NDHIA). (See map on page 4.) The numbers of associations and supervisors in the program are also listed.

In 1976, two States (Alabama and Montana) formed State DHIA's for a total of 48 States and Puerto Rico as of January 1, 1977. Since January 1, 1976, two States (Idaho and Tennessee) joined NDHIA for a total of 45 States and Puerto Rico as of January 1, 1977. This exemplifies the continuing interest of dairymen in managing the NCDHIP.

1/ Prepared by Gerald J. King, dairy husbandman, and Evelyn F. Myers, statistical assistant, in the Animal Improvement Programs Laboratory, Animal Physiology and Genetics Institute, Northeastern Region, ARS, USDA, Beltsville, Md. 20705, from data supplied by the State Extension Dairymen reporting on the NCDHIP.

Table 2 lists the percentages of all milk cows included in all record-keeping plans. (See map on page 5.) The data show six States (Arizona, California, Hawaii, Nevada, New Mexico, and South Carolina) with more than 50 percent of their cows tested. Eight States follow with between 40 and 49.9 percent of their cows tested; 17 States, between 30 and 39.9 percent; 12 States, between 20 and 29.9 percent; 6 States, between 10 and 19.9 percent; and 1 State still has less than 10 percent of its cows tested.

Table 3 summarizes the data for participating States in each record-keeping plan. Footnote 5 lists 836 herds and 32,491 cows on unofficial recordkeeping plans not under the auspices of the NCDHIP. Two of these plans are vocational agriculture and private testing.

Tables 4 through 8 present details of participation in the various plans. Table 4 shows there are 1,523 more herds and 142,799 more cows on official test on January 1, 1977, than on January 1, 1976. Average herd size increased by 0.8 cow.

Table 5 presents data for the DHIR plan. The DHIR plan has increased by 312 herds and 25,657 cows since January 1, 1976.

Table 6 presents data for the Owner-Sampler plan. The Owner-Sampler plan increased by 404 herds and 15,738 cows since January 1, 1976.

Table 7 presents data for the Alternate AM-PM, Commercial, and WADAM plans. The Alternate AM-PM plan increased by 590 herds and 38,365 cows in 1976. The Commercial plan increased by 4 herds and 8,777 cows, and Weigh-a-Day-a-Month decreased by 44 herds and 4,308 cows.

Table 8 presents data for the Milk-Only-Record plan and all other unofficial plans. The Milk-Only-Record plan increased by 69 herds and 10,636 cows; the all-other-plans group decreased by 1 herd and 3,286 cows.

Table 9 presents a history of Official DHI and DHIR testing in the United States since 1906. The given number of associations and supervisors is for the total NCDHIP. Data for 1906 through 1939 were last included in the Dairy Herd Improvement Letter in Volume 49, No. 4.

Table 10 presents a history of the Owner-Sampler plan from its first tabulation, January 1, 1956.

Table 11 presents a history of other unofficial plans since January 1, 1957, just after the beginning of WADAM testing.

Table 12 lists associations that have 40 percent or more of their dairy cows included in the NCDHIP.

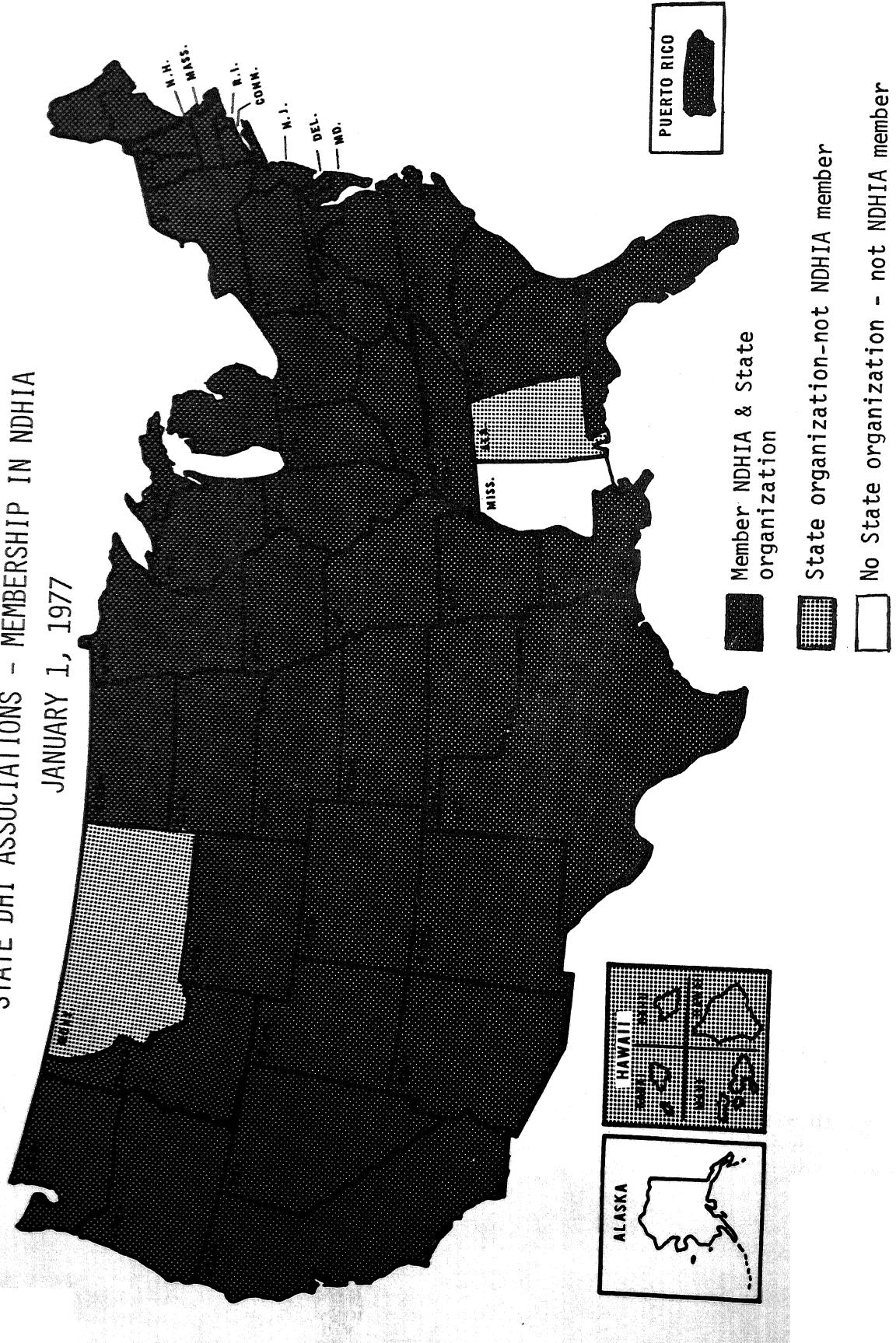
Table 13 is a list of the Extension Dairymen who advise on the NCDHIP in the States. Several of these men have begun work in the States after January 1, 1977, but before this Letter was published.

The increase in NCDHIP enrollment of 2,545 herds and 208,721 cows over January 1, 1976, is remarkable when the enrollment on January 1, 1976, was 484 fewer herds and only 7,041 more cows than on January 1, 1975. Included in the increase are 1,523 herds and 142,799 cows on official test. California increased by 9,201 cows; Minnesota by 7,243; New York by 8,065; Texas by 8,591; and Wisconsin by 21,011. Six States increased between 4,000 and 7,000; 10 States increased between 2,001 and 3,000; and 7 States increased between 1,000 and 2,000.

The Owner-Sampler plan showed a net increase of 404 herds and 15,738 cows. Wisconsin alone increased by 538 herds and 16,279 cows. Other testing increased by 618 herds and 50,184 cows. Large cow gains in this group were: for Alternate AM-PM, New York, 15,787; Pennsylvania, 7,130; and Wisconsin, 11,279; for Commercial, California, 7,994; and for Milk-Only-Record, Florida, 3,322.

The increase in participation in the NCDHIP is testimony to the excellent cooperation and work of local and State DHIA's, NDHIA, and State Extension Dairymen to increase production testing. It also speaks well for the acceptance by dairymen of the main purpose of production testing--improvement of herd management and net income.

STATE DHI ASSOCIATIONS - MEMBERSHIP IN NDHIA
JANUARY 1, 1977



NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM
PERCENTAGE OF COWS IN PROGRAM, JANUARY 1, 1977

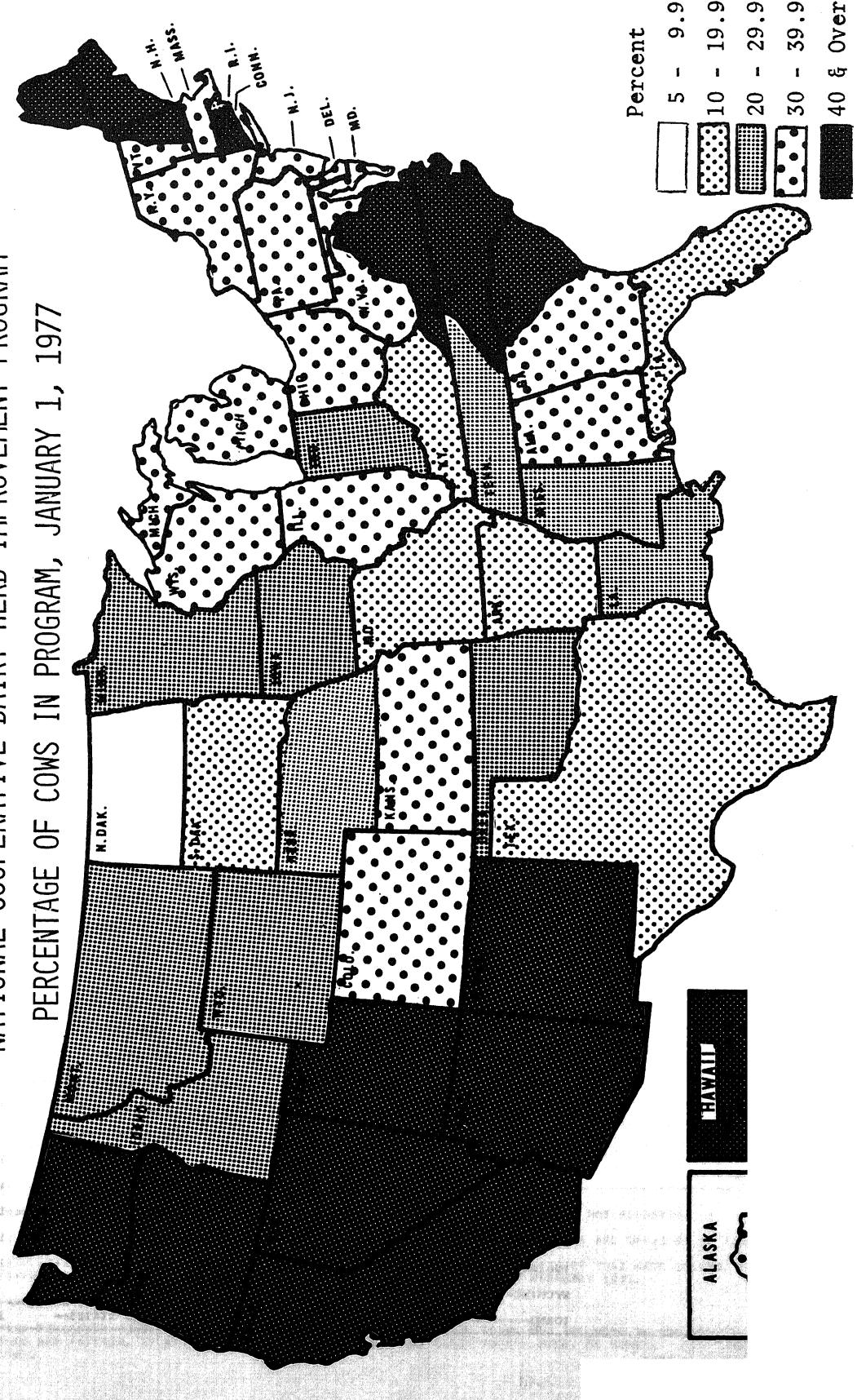


TABLE 1--STATE DHIA'S, MEMBERSHIP IN NDHIA, INC., ASSOCIATIONS, AND SUPERVISORS: THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977

STATE	STATE DHIA	MEMBER OF NDHIA, INC.	ASSOCI- ATIONS	SUPER- VISORS	STATE	STATE DHIA	MEMBER OF NDHIA, INC.	ASSOCI- ATIONS	SUPER- VISORS
ALABAMA	YES	NO	19	18	NEW HAMPSHIRE	YES	YES	8	16
ALASKA	NO	NO	1	1	NEW JERSEY	YES	YES	5	15
ARIZONA	YES	YES	1	17	NEW MEXICO	YES	YES	3	7
ARKANSAS	YES	YES	12	14	NEW YORK	YES	YES	48	189
CALIFORNIA	YES	YES	26	103	NORTH CAROLINA	YES	YES	27	43
COLORADO	YES	YES	9	20	NORTH DAKOTA	YES	YES	15	13
CONNECTICUT	YES	YES	6	18	OHIO	YES	YES	14	99
DELAWARE	YES	YES	3	3	OKLAHOMA	YES	YES	14	23
FLORIDA	YES	YES	9	15	OREGON	YES	YES	13	19
GEORGIA	YES	YES	23	26	PENNSYLVANIA	YES	YES	59	174
HAWAII	YES	NO	1	1	PUERTO RICO	YES	YES	1	10
IDAHO	YES	YES	22	29	RHODE ISLAND	YES	YES	2	2
ILLINOIS	YES	YES	46	78	SOUTH CAROLINA	YES	YES	10	24
INDIANA	YES	YES	45	71	SOUTH DAKOTA	YES	YES	16	16
IOWA	YES	YES	60	81	TENNESSEE	YES	YES	33	42
KANSAS	YES	YES	47	60	TEXAS	YES	YES	26	47
KENTUCKY	YES	YES	44	48	UTAH 1/	YES	YES	15	17
LOUISIANA	YES	YES	11	29	VERMONT	YES	YES	25	51
MAINE	YES	YES	14	32	VIRGINIA	YES	YES	40	56
MARYLAND	YES	YES	11	36	WASHINGTON	YES	YES	20	42
MASSACHUSETTS	YES	YES	7	17	WEST VIRGINIA	YES	YES	11	20
MICHIGAN	YES	YES	1	83	WISCONSIN	YES	YES	31	244
MINNESOTA	YES	YES	73	168	WYOMING	YES	YES	4	7
MISSISSIPPI	NO	NO	20	26	THE NATIONAL COOPERATIVE DHIA PROGRAM	49	46	1,028	2,266
MISSOURI	YES	YES	39	50					
MONTANA	YES	NO	6	9					
NEBRASKA	YES	YES	30	33					
NEVADA	YES	YES	2	4					

1/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 2--PERCENTAGE OF COWS, BY STATE, INCLUDED IN THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977

STATE	PERCENT	STATE	PERCENT	STATE	PERCENT
HAWAII	78.61	GEORGIA	37.64	LOUISIANA	27.22
NEVADA	69.71	PENNSYLVANIA	36.83	RHODE ISLAND	26.92
NEW MEXICO	63.83	NEW YORK	36.58	MINNESOTA	26.83
ARIZONA	56.64	KANSAS	36.01	IOWA	26.29
CALIFORNIA	56.31	ALABAMA	35.89	OKLAHOMA	23.92
SOUTH CAROLINA	55.34	NEW JERSEY	34.94	TENNESSEE	23.45
VIRGINIA	49.82	WEST VIRGINIA	34.73	MONTANA	23.09
CONNECTICUT	48.48	WISCONSIN	34.41	MISSISSIPPI	21.96
WASHINGTON	45.84	MICHIGAN	33.94	NEBRASKA	21.00
NORTH CAROLINA	43.63	VERMONT	33.82	FLORIDA	19.06
NEW HAMPSHIRE	43.38	DELAWARE	33.39	TEXAS	17.34
UTAH 1/	43.33	ILLINOIS	32.77	MISSOURI	16.84
MAINE	42.56	OHIO	32.72	SOUTH DAKOTA	14.49
OREGON	41.06	ALASKA	31.53	ARKANSAS	12.93
MASSACHUSETTS	39.36	INDIANA	29.67	KENTUCKY	12.89
COLORADO	38.97	WYOMING	27.67	NORTH DAKOTA	6.85
MARYLAND	38.90	IDAHO	27.47	UNITED STATES	33.46

1/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 3--THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM AND OTHER TESTING PLANS, JANUARY 1, 1977 1/

STATE	OFFICIAL DHI AND DHIR		OWNER-SAMPLER		ALTERNATE AM-PM		OTHER UNOFFICIAL PLANS 2/		ALL TESTING PLANS		U.S. MILK COWS 3/	PCT. IN ALL PLANS
	HERDS	COWS	HERDS	COWS	HERDS	COWS	HERDS	COWS	HERDS	COWS		
ALABAMA-----	228	27,770	22	3,454	228	31,224	87	35.89				
ALASKA-----	1	64	4	360	---	473	1.5	31.53				
ARIZONA-----	98	36,313	---	---	5	38,517	68	56.64				
ARKANSAS-----	121	7,542	46	4,039	1	11,637	90	12.93				
CALIFORNIA-----	1,128	363,815	36	4,096	228	455,560	809	56.31				
COLORADO-----	224	23,287	12	1,622	17	27,670	71	38.97				
CONNECTICUT-----	304	23,530	24	1,016	10	25,692	53	48.48				
DELAWARE-----	45	3,436	---	8	571	4,007	12	33.39				
FLORIDA-----	51	14,766	1	182	1	22,981	113	38,310	201	19.06		
GEORGIA-----	282	34,804	4	378	78	13,375	364	48,557	129	37.64		
HAWAII-----	10	4,131	2	1,244	11	4,844	23	10,219	13	78.61		
IDAHO-----	436	35,100	35	2,060	11	1,079	4	39,008	142	27.47		
ILLINOIS-----	1,137	62,055	208	9,046	110	5,549	1,455	76,690	234	32.77		
INDIANA-----	843	49,839	239	11,682	10	480	1,092	62,001	209	29.67		
IOWA-----	1,594	73,048	760	28,103	17	1,634	7	2,378	103,065	392	26.29	
KANSAS-----	706	44,412	109	5,097	6	1,270	821	50,779	141	36.01		
KENTUCKY-----	459	27,567	52	4,050	59	4,086	570	36,103	280	12.89		
LOUISIANA-----	321	32,707	1	56	47	3,985	369	36,748	135	27.22		
MAINE-----	377	21,127	38	1,426	1	83	14	2,046	430	24,682	58	42.56
MARYLAND-----	604	51,057	42	2,103	9	968	5	328	660	54,456	140	38.90
MASSACHUSETTS-----	304	19,313	24	819	6	731	334	20,863	53	39.36		
MICHIGAN-----	1,288	95,060	654	33,972	107	8,413	2,049	137,445	405	33.94		
MINNESOTA-----	3,484	159,660	2,075	74,341	35	1,615	3	527	236,143	880	26.83	
MISSISSIPPI-----	252	23,232	20	1,736	3	290	275	25,258	115	21.96		
MISSOURI-----	653	42,339	182	9,871	---	---	---	835	52,210	310	16.84	
MONTANA-----	68	5,230	8	1,003	---	---	---	76	6,233	27	23.09	
NEBRASKA-----	412	25,765	56	3,058	1	97	1	56	470	28,976	138	21.00
NEVADA-----	41	8,454	3	1,306	---	---	---	44	9,760	14	69.71	
NEW HAMPSHIRE-----	193	11,258	36	1,292	---	---	11	898	240	13,448	31	43.38
NEW JERSEY-----	215	15,960	11	461	---	---	---	226	16,421	47	34.94	
NEW MEXICO-----	44	18,655	2	143	4	990	50	19,788	31	63.83		
NEW YORK-----	3,137	198,322	1,166	52,149	1,147	66,311	205	17,176	5,655	333,958	913	36.58
NORTH CAROLINA-----	636	62,559	31	2,021	---	---	30	2,612	697	67,192	154	43.63
NORTH DAKOTA-----	102	5,871	14	1,106	---	---	16	763	132	7,740	113	6.85
OHIO-----	1,589	92,200	813	36,819	19	1,209	---	4	576	2,421	130,228	398
OKLAHOMA-----	346	25,971	26	1,204	---	---	4	376	27,751	116	32.72	23.92
OREGON-----	323	34,580	28	1,298	---	---	15	1,490	366	37,368	91	41.06
PENNSYLVANIA-----	3,288	180,512	749	30,647	945	48,853	---	4,982	260,012	706	36.83	
PUERTO RICO-----	85	19,995	---	---	---	---	12	2,641	97	22,636	---	
RHODE ISLAND-----	23	1,346	---	---	---	---	---	23	1,346	5	26.92	
SOUTH CAROLINA-----	237	30,380	10	1,178	---	---	8	537	255	32,095	58	55.34
SOUTH DAKOTA-----	196	10,928	259	11,303	---	---	16	1,248	471	23,479	162	14.49
TENNESSEE-----	533	45,402	---	---	---	---	47	4,087	580	49,489	211	23.45
TEXAS-----	395	46,118	57	7,925	---	---	13	1,109	465	55,152	318	17.34
UTAH 4/-----	326	31,924	16	784	---	---	12	1,528	354	34,236	79	43.33
VERMONT-----	787	45,761	336	16,049	61	3,677	3	470	1,187	65,957	195	33.82
VIRGINIA-----	873	79,019	42	2,762	---	---	18	416	933	82,197	165	49.82
WASHINGTON-----	640	72,775	55	3,707	10	1,497	37	4,993	742	82,972	181	45.84
WEST VIRGINIA-----	181	12,903	8	293	---	---	---	---	189	13,196	38	34.73
WISCONSIN-----	4,101	219,818	9,387	365,087	670	33,500	22	968	14,180	619,373	1,800	34.41
WYOMING-----	34	3,044	---	---	---	---	---	34	3,044	11	27.67	
THE NATIONAL COOPERATIVE DHI PROGRAM-----	33,755	2,581,164	17,703	742,348	2,945	161,955	1,256	205,897	55,659	3,691,364	11,031	33.46
OTHER TESTING 5/-----									836	32,491	11,031	2.95
TOTAL-----									56,495	3,723,855	11,031	36.41

1/ DASHES INDICATE PLAN IS NOT IN OPERATION IN STATE OR DATA UNAVAILABLE OR NOT REPORTED.

2/ UNOFFICIAL PLANS OPERATING UNDER THE AUSPICES OF THE NCDHIP. THESE PLANS ARE DETAILED IN TABLES 7 AND 8.

3/ PRELIMINARY FIGURES FOR JANUARY 1, 1977, NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH: ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN "CATTLE", FEBRUARY 1977.

4/ BASED ON LAST REPORT AVAILABLE.

5/ THE FOLLOWING NUMBER OF HERDS AND COWS ARE ON OTHER TESTING PLANS NOT INCLUDED IN THE NCDHIP, SUCH AS VOCATIONAL AGRICULTURE AND PRIVATE. BY STATE: NORTH DAKOTA, 5 HERDS, 200 COWS; PUERTO RICO, 38 HERDS, 7,524 COWS; WISCONSIN, 793 HERDS, 24,767 COWS.

TABLE 4--OFFICIAL DHI AND DHIR RECORDKEEPING IN THE UNITED STATES, JANUARY 1, 1977

STATE	HERDS	COWS	CHANGE	COWS PER HERD	U.S. MILK COWS 1/	PCT. OF U.S. COWS
			FROM 1/1/76			
	NO.	NO.	NO.	NO.	THOU.	
ALABAMA-----	228	27,770	+143	121.8	87	31.92
ALASKA-----	1	64	-3	64.0	1.5	4.27
ARIZONA-----	98	36,313	+4,493	370.5	68	53.40
ARKANSAS-----	121	7,542	+512	62.3	90	83.80
CALIFORNIA-----	1,128	363,815	+9,201	322.5	809	44.97
COLORADO-----	224	23,287	-498	104.0	71	32.80
CONNECTICUT-----	304	22,530	+313	77.4	53	44.40
DELAWARE-----	45	3,436	+265	76.4	12	28.63
FLORIDA-----	51	14,766	-1,051	289.5	201	7.35
GEORGIA-----	282	34,204	+2,173	123.4	129	26.98
HAWAII-----	10	4,131	+137	413.1	13	31.78
IDAHO-----	436	35,100	+3,180	80.5	142	24.72
ILLINOIS-----	1,137	62,095	+2,671	54.6	234	26.54
INDIANA-----	843	45,839	+3,082	59.1	209	23.85
IOWA-----	1,594	73,048	+4,237	45.8	392	18.63
KANSAS-----	706	44,412	+462	62.9	141	31.50
KENTUCKY-----	459	27,967	+3,118	60.9	280	9.99
LOUISIANA-----	321	32,707	+3,337	101.9	135	24.23
MAINE-----	377	21,127	+511	56.0	58	36.43
MARYLAND-----	604	51,057	+2,596	84.3	140	36.47
MASSACHUSETTS-----	304	15,313	+1,125	63.5	53	36.44
MICHIGAN-----	1,288	95,060	+5,652	73.8	405	23.47
MINNESOTA-----	3,484	155,660	+7,243	45.8	880	18.14
MISSISSIPPI-----	252	23,232	+1,454	92.2	115	20.20
MISSOURI-----	653	42,339	+2,360	64.8	310	13.66
MONTANA-----	68	5,230	-574	76.9	27	19.37
NEBRASKA-----	412	25,765	+1,323	62.5	138	18.67
NEVADA-----	41	8,454	+1,758	206.2	14	60.39
NEW HAMPSHIRE-----	193	11,258	-27	58.3	31	36.32
NEW JERSEY-----	215	15,960	-385	74.2	47	33.96
NEW MEXICO-----	44	18,655	+3,504	424.0	31	60.18
NEW YORK-----	3,137	198,322	+8,065	63.2	913	21.72
NORTH CAROLINA-----	636	62,559	+4,363	98.4	154	40.62
NORTH DAKOTA-----	102	5,871	-402	57.6	113	5.20
OHIO-----	1,589	92,200	+5,358	58.0	398	23.17
OKLAHOMA-----	346	25,571	+1,933	75.1	116	22.39
OREGON-----	323	34,580	-1,095	107.1	91	38.00
PENNSYLVANIA-----	3,288	180,512	+10,789	54.9	706	25.57
PUERTO RICO-----	85	15,995	+2,264	235.2	---	---
RHODE ISLAND-----	23	1,346	+308	58.5	5	26.92
SOUTH CAROLINA-----	237	30,380	+628	128.2	58	52.38
SOUTH DAKOTA-----	196	10,928	+1,180	55.8	162	6.75
TENNESSEE-----	533	45,402	+5,123	85.2	211	21.52
TEXAS-----	395	46,118	+8,591	116.8	318	14.50
UTAH 2/-----	326	31,924	0	97.9	79	40.41
VERMONT-----	787	45,761	+4,128	58.1	195	23.47
VIRGINIA-----	873	75,019	+3,245	90.5	165	47.89
WASHINGTON-----	640	72,775	+4,498	113.7	181	40.21
WEST VIRGINIA-----	181	12,903	+361	71.3	38	33.96
WISCONSIN-----	4,101	219,818	+21,011	53.6	1,800	12.21
WYOMING-----	34	3,044	+139	89.5	11	27.67
UNITED STATES-----	33,755	2,581,164	+142,799	76.5	11,031	23.40

1/ PRELIMINARY FIGURES FOR JANUARY 1, 1977. NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH; ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN 'CATTLE', FEBRUARY 1977.
DASHES INDICATE STATE COW NUMBERS NOT AVAILABLE.

2/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 6.--OWNER-SAMPLER RECORDKEEPING IN THE UNITED STATES, JANUARY 1, 1977

STATE	HERDS	CCWS	CHANGE	COWS PER HERD	U.S. MILK COWS 1/	PCT. OF U.S. COWS
			FROM 1/1/76			
	NO.	NO.	NO.	NO.	THOU.	
ALABAMA	22	3,454	-632	157.0	87	3.97
ALASKA	4	360	+178	90.0	1.5	24.00
ARIZONA	(2/)	(2/)	(2/)	(2/)	68	(2/)
ARKANSAS	46	4,039	-93	87.8	90	4.49
CALIFORNIA	36	4,096	-98	113.8	809	.51
COLORADO	12	1,622	+527	135.2	71	2.28
CONNECTICUT	24	1,016	-296	42.3	53	1.92
DELAWARE	(2/)	(2/)	(2/)	(2/)	12	(2/)
FLORIDA	1	182	-113	182.0	201	.09
GEORGIA	4	378	+285	94.5	129	.29
HAWAII	2	1,244	+262	622.0	13	9.57
IDAHO	35	2,060	-344	58.9	142	1.45
ILLINOIS	208	9,046	-227	43.5	234	3.87
INDIANA	239	11,682	-1,158	48.9	209	5.59
IOWA	760	28,103	-1,856	37.0	392	7.17
KANSAS	109	5,097	-303	46.8	141	3.61
KENTUCKY	52	4,050	+774	77.9	280	1.45
LOUISIANA	1	56	-25	56.0	135	.04
MAINE	38	1,426	-67	37.5	58	2.46
MARYLAND	42	2,103	-374	50.1	140	1.50
MASSACHUSETTS	24	819	+88	34.1	53	1.55
MICHIGAN	654	33,972	+15	51.9	405	8.39
MINNESOTA	2,075	74,341	+2,922	35.8	880	8.45
MISSISSIPPI	20	1,736	+199	86.8	115	1.51
MISSOURI	182	9,871	+726	54.2	310	3.18
MONTANA	8	1,003	-44	125.4	27	3.71
NEBRASKA	56	3,058	+108	54.6	138	2.22
NEVADA	3	1,306	-44	435.3	14	9.33
NEW HAMPSHIRE	36	1,292	+249	35.9	31	4.17
NEW JERSEY	11	461	+81	41.9	47	.98
NEW MEXICO	2	143	-73	71.5	31	.46
NEW YORK	1,166	52,149	-2,227	44.7	913	5.71
NORTH CAROLINA	31	2,021	+436	65.2	154	1.31
NORTH DAKOTA	14	1,106	-9	79.0	113	.98
OHIO	813	36,819	+3,259	45.3	398	9.25
OKLAHOMA	26	1,204	+296	46.3	116	1.04
OREGON	28	1,298	+148	46.4	91	1.43
PENNSYLVANIA	749	30,647	-6,075	40.9	706	4.34
PUERTO RICO	(2/)	(2/)	(2/)	(2/)	---	(2/)
RHODE ISLAND	(2/)	(2/)	(2/)	(2/)	5	(2/)
SOUTH CAROLINA	10	1,178	+396	117.8	58	2.03
SOUTH DAKOTA	259	11,303	-455	43.6	162	6.98
TENNESSEE	(2/)	(2/)	(2/)	(2/)	211	(2/)
TEXAS	57	7,925	+3,350	139.0	318	2.49
UTAH	16	784	0	49.0	79	.99
VERMONT	336	16,049	-330	47.8	195	8.23
VIRGINIA	42	2,762	-588	65.8	165	1.67
WASHINGTON	55	3,707	+586	67.4	181	2.05
WEST VIRGINIA	8	293	+62	146.5	38	.77
WISCONSIN	9,387	365,087	+16,279	38.9	1,800	20.28
WYOMING	(2/)	(2/)	(2/)	(2/)	11	(2/)
UNITED STATES	17,703	742,348	+15,738	41.9	11,031	6.73

1/ PRELIMINARY FIGURES FOR JANUARY 1, 1977, NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH: ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN "CATTLE", FEBRUARY 1977.

DASHES INDICATE STATE CCW NUMBERS NOT AVAILABLE.

2/ NO PARTICIPATION IN OWNER-SAMPLER TESTING REPORTED.

3/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 7.--ALTERNATE AM-PM, COMMERCIAL, AND WEIGH-A-DAY-A-MONTH RECORDKEEPING IN THE UNITED STATES, JANUARY 1, 1977

STATE	HERDS	COWS	CHANGE	COWS	U.S.	PCT.	
			FROM 1/1/76				
NO.	NO.	NO.	THOU.	<u>ALTERNATE AM-PM</u>			
DELAWARE-----	8	571	-185	71.4	12	.76	
FLORIDA-----	1	381	+10	381.0	201	.19	
IDAHO-----	11	1,079	-596	98.1	142	.76	
INDIANA-----	10	480	+480	48.0	209	.23	
IOWA-----	17	1,634	+1,463	96.1	392	.42	
MAINE-----	1	83	+83	83.0	58	.14	
MARYLAND-----	9	968	+968	107.6	140	.69	
MINNESOTA-----	35	1,615	+1,203	46.1	880	.18	
NEBRASKA-----	1	97	+2	97.0	138	.07	
NEW YORK-----(DHI-AP)	998	59,259	+15,735	59.4	913	.49	
NEW YORK-----(OS-AP)	149	7,052	+52	47.3	913	.77	
OHIO-----	19	1,209	-72	63.6	398	.30	
PENNSYLVANIA-----	797	42,785	+1,062	53.7	706	.06	
PENNSYLVANIA-----(OS)	148	6,068	+6,068	41.0	706	.86	
VERMONT-----	47	2,879	+739	61.3	195	1.48	
VERMONT-----(OS)	14	798	-13	57.0	195	.41	
WASHINGTON-----	10	1,497	+87	149.7	181	.83	
WISCONSIN-----	670	33,500	+11,279	50.0	1,800	1.86	
UNITED STATES-----	2,945	161,955	+38,365	55.0	11,031	1.47	
<u>COMMERCIAL</u>							
ARIZONA-----	1	898	+898	898.0	68	1.32	
CALIFORNIA-----	228	87,649	+7,994	384.4	809	10.96	
COLORADO-----	12	2,284	+290	190.3	71	3.22	
IDAHO-----	4	769	-73	192.3	142	.54	
MARYLAND-----	0	0	-840	0.0	140	0.0	
NEW MEXICO-----	4	990	+990	247.5	31	.70	
OREGON-----	10	1,040	+1,040	104.0	91	1.14	
UTAH 2/-----	9	1,333	0	146.1	79	1.69	
WASHINGTON-----	35	4,553	-1,522	130.1	181	2.52	
UNITED STATES-----	303	99,516	+8,777	328.4	11,031	.90	
<u>WEIGH-A-DAY-A-MONTH</u>							
ALASKA-----	1	49	+49	49.0	1.5	3.27	
ARIZONA-----	4	1,306	+1,306	326.5	68	1.92	
COLORADO-----	5	477	+302	95.4	71	.67	
GEORGIA-----	47	8,053	-886	171.3	129	6.24	
HAWAII-----	11	4,844	-837	440.4	13	37.26	
IDAHO-----	0	0	-206	0.0	142	0.0	
ILLINOIS-----	110	5,549	-271	50.4	234	2.37	
IOWA-----	0	0	-225	0.0	392	0.0	
KENTUCKY-----	4	196	-54	49.0	280	.07	
LOUISIANA-----	47	3,985	-366	84.8	135	2.95	
MARYLAND-----	5	328	+180	36.0	140	.23	
MISSISSIPPI-----	0	0	-590	0.0	115	0.0	
NEBRASKA-----	0	0	-165	0.0	138	0.0	
NEW HAMPSHIRE-----	6	424	+24	70.7	31	1.37	
NORTH CAROLINA-----	22	1,489	+102	67.7	154	.97	
NORTH DAKOTA-----	16	763	+120	47.7	113	.68	
OREGON-----	0	0	-195	0.0	91	0.0	
PUERTO RICO-----	12	2,641	-1,066	220.1	—	—	
SOUTH CAROLINA-----	8	537	-64	67.1	58	.93	
TENNESSEE-----	47	4,087	+316	87.0	211	1.94	
TEXAS-----	11	1,060	-1,351	96.4	318	.33	
VIRGINIA-----	1	94	-8	94.0	165	.06	
UTAH 2/-----	3	195	0	65.0	79	.25	
WEST VIRGINIA-----	0	0	-423	0.0	38	0.0	
UNITED STATES-----	360	36,077	-4,308	100.2	11,031	.33	
UNITED STATES THREE PLANS TOTAL	3,608	297,548	+42,834	82.5	11,031	2.70	

1/ PRELIMINARY FIGURES FOR JANUARY 1, 1977, NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING HEIFERS NOT YET FRESH; ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN "CATTLE", FEBRUARY 1977.
CASHES INDICATE STATE COW NUMBERS NOT AVAILABLE.

2/ BASED ON THE LAST REPORT AVAILABLE.

TABLE 8--MILK-ONLY-RECORD AND OTHER UNOFFICIAL RECORDKEEPING IN THE UNITED STATES, JANUARY 1, 1977

STATE	PLAN 1/	HERDS	COWS	CHANGE FROM 1/1/76		COWS PER HERD	U.S. MILK COWS 2/	PCT. OF U.S. COWS
				NO.	NO.			
<u>MILK-ONLY-RECORD</u>								
ARKANSAS	MOR	1	56	+56	56.0	90	0.06	
CONNECTICUT	MOR	10	1,146	+54	114.6	53	2.16	
FLORIDA	MOR	55	19,590	+3,322	356.2	201	9.75	
GEORGIA	MOR	31	5,322	+1,254	171.7	129	4.13	
IOWA	MOR	7	280	+280	40.0	392	.07	
KANSAS	MOR	6	1,270	+90	211.7	141	.90	
MAINE	MOR	14	2,046	+2,046	146.1	58	3.53	
MASSACHUSETTS	MOR	6	731	-116	121.8	53	1.38	
MICHIGAN	MOR	58	5,873	+1,612	101.3	405	1.45	
MINNESOTA	MOR	3	527	+305	175.7	880	.06	
NEBRASKA	MOR	1	56	-3	56.0	138	.04	
NEW HAMPSHIRE	MOR	5	474	-175	94.8	31	1.53	
NEW JERSEY	OS-MOR	0	0	-145	0.0			
NEW YORK	MOR	205	17,176	+1,462	83.8	47	0.0	
NORTH CAROLINA	MOR	8	1,123	-250	140.4	913	1.88	
NORTH DAKOTA	MILK ONLY	0	0	-37	0.0	113	0.0	
OKLAHOMA	MOR	4	576	+36	144.0	116	.50	
SOUTH DAKOTA	MOR	16	1,248	+199	78.0	162	.77	
VERMONT	MOR	2	193	+65	96.5			
WASHINGTON	MOR	2	440	+440	220.0	195	.10	
WISCONSIN	MOR	22	968	+141	44.0	181	.24	
						1,803	.05	
UNITED STATES		456	59,095	+10,636	129.6	11,031	.54	
<u>ALL OTHER</u>								
ARKANSAS	(UNSPECIFIED)	0	0	-351	0.0	90	0.0	
FLORIDA	UNSUPERVISED, UNAPPROVED							
KENTUCKY	METERS	5	3,391	-305	678.2	201	1.69	
	BASIC PRODUCTION AND MANAGEMENT	55	3,890	+136	70.7	280	1.39	
MAINE	(UNSPECIFIED)	0	0	-1,932	0.0			
MICHIGAN	TNT	49	2,540	+28	51.8	58	0.0	
MISSISSIPPI	BASIC MANAGEMENT	3	290	+290	96.7	405	6.27	
						115	.25	
OREGON	HAND CALCULATED/SUPER- VISED	5	450	-150	90.0			
OREGON	COM'L OR TESTER SAMPLED	0	0	-1,650	0.0	91	.49	
TEXAS	BASIC	2	49	+49	24.5	91	0.0	
						318	.02	
VERMONT	OSMO	1	277	+277	277.0	195	.14	
VIRGINIA	EXTENSION TECHNICIAN COMPUTED-M-O-R	17	322	+322	18.9	165	.20	
UNITED STATES		137	11,209	-3,286	89.2	11,031	.10	
TOTAL FOR MILK-ONLY-RECORD AND OTHER UNOFFICIAL PLANS		593	70,304	+7,350	118.1	11,031	.64	

1/ MOR, OS-MOR, AND MILK ONLY ARE MILK-ONLY-RECORD TESTING; TMT IS TRI-MONTHLY TESTING;
OSMO IS OWNER-SAMPLER-MILK-ONLY RECORD TESTING.

2/ PRELIMINARY FIGURES FOR JANUARY 1, 1977, NUMBERS OF MILK COWS AND HEIFERS THAT HAVE CALVED, EXCLUDING
HEIFERS NOT YET FRESH; ESTIMATED BY THE STATISTICAL REPORTING SERVICE (USDA) IN "CATTLE", FEBRUARY 1977.

TABLE 10.--ENROLLMENT IN THE OWNER-SAMPLER PLAN IN THE UNITED STATES, JANUARY 1, 1956-77 1/, 2/, 3/

YEAR	HERDS EN- ROLLED	COWS EN- ROLLED	COWS PER HERD	PCT. OF U.S. COWS	HERDS REPORTED	COWS REPORTED	AVERAGE PRODUCTION		
	NO.	NO.	NO.	NO.	NO.	NO.	NO.	PCT	LB.
1956	17,110	374,479	21.9	1.78	—	—	—	—	—
1957	29,778	405,090	19.5	1.98	—	—	—	—	—
1958	21,269	490,001	23.0	2.48	—	—	—	—	—
1959	22,807	549,916	24.1	2.94	—	—	—	—	—
1960	24,274	615,899	25.4	3.44	—	—	—	—	—
1961	24,498	655,885	26.8	3.74	—	—	—	—	—
1962	24,954	698,302	28.0	4.05	—	—	—	—	—
1963	25,376	726,478	28.6	4.31	14,761	423,545	10,606	3.73	396
1964	25,598	752,229	29.4	4.63	13,574	385,493	10,885	3.71	404
1965	26,604	818,406	30.8	5.22	18,409	559,608	11,402	3.71	423
1966	26,259	839,838	32.0	5.62	19,172	598,133	11,472	3.70	425
1967	25,439	825,127	32.4	5.98	17,912	575,816	11,607	3.72	432
1968	25,143	847,485	33.7	6.39	17,318	592,647	11,847	3.72	441
1969	24,359	842,330	34.6	6.56	17,908	614,939	11,932	3.72	444
1970	23,281	839,343	36.1	6.67	16,971	611,819	12,185	3.72	453
1971	22,581	836,751	37.1	6.74	16,569	612,080	12,413	3.71	460
1972	21,345	805,555	37.7	6.56	16,107	618,088	12,544	3.74	466
1973	20,895	806,270	38.6	6.92	16,183	631,269	12,488	3.75	468
1974	19,738	785,195	39.7	6.94	16,037	639,964	12,353	3.75	463
1975	18,112	749,807	41.4	6.69	14,704	610,910	12,503	3.80	475
1976	17,299	726,610	42.0	6.55	16,784	753,089	13,104	3.79	497
1977	17,703	742,348	41.9	6.73	—	—	—	—	—

1/ DASHES INDICATE DATA NOT TABULATED OR AVAILABLE.

2/ TABULATION OF THE OWNER-SAMPLER PLAN BEGAN IN 1956.

3/ BEGINNING IN 1976 HERDS, COWS, AND AVERAGE PRODUCTION ARE REPORTED FOR THE FOLLOWING UNOFFICIAL PLANS: OWNER-SAMPLER, AM-PM, OWNER-SAMPLER AM-PM, COMMERCIAL, BIMONTHLY, AND TRIMONTHLY.

TABLE 11.--ENROLLMENT IN OTHER UNOFFICIAL PLANS IN THE UNITED STATES, JANUARY 1, 1957-77 1/

YEAR	HERDS EN- ROLLED	COWS EN- ROLLED	COWS PER HERD	PCT. OF U.S. COWS	YEAR	HERDS EN- ROLLED	COWS EN- ROLLED	COWS PER HERD	PCT. OF U.S. COWS
	NO.	NO.	NO.	NO.		NO.	NO.	NO.	NO.
1957	1,174	21,297	18.1	0.10	1973	2,225	172,610	77.6	1.48
1958	3,629	79,489	21.9	.40	1974	2,675	208,962	78.1	1.85
1959	2,998	74,814	25.0	.40	1975	3,264	292,834	89.7	2.61
1960	3,119	76,392	24.5	.43	1976	3,583	317,668	88.7	2.86
1961	2,363	70,847	30.0	.40	1977	4,201	367,852	87.6	3.33
1962	1,936	70,617	36.5	.41					
1963	1,500	50,492	33.7	.30					
1964	1,396	60,149	43.1	.37					
1965	1,229	56,570	46.0	.36					
1966	1,160	56,957	49.1	.38					
1967	1,001	53,429	53.4	.39					
1968	867	48,853	56.3	.37					
1969	708	44,131	62.3	.34					
1970	2,040	158,789	77.8	1.26					
1971	1,935	136,304	70.4	1.10					
1972	2,108	156,593	74.3	1.28					

1/ TABULATION OF THE WEIGH-A-DAY-A-MONTH PLAN BEGAN IN 1957; TABULATION OF OTHER UNOFFICIAL PLANS OPERATING UNDER AUSPICES OF THE NCDHIP BEGAN IN 1970. THE COUNTS INCLUDE DATA RECEIVED FOR ALTERNATE AM-PM, COMMERCIAL, WADAM, MILK-ONLY RECORD, AND ALL OTHER UNOFFICIAL PLANS.

TABLE 12--ASSOCIATIONS BY STATES WITH 40 PERCENT OR MORE COWS INCLUDED IN THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977 1/

STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP
	PCT		PCT		PCT
ALABAMA					
HENRY-----	100	ESCAMBIA-----	64	MADISON-----	77
LEE-----	84	MANATEE-----	56	PARKE-----	71
FL MORG-----	70	BAKER-----	54	HENDRICKS-----	57
MARENCO-----	68	ALACHUA-----	50	BENTON-----	52
JEFFERSON-----	60	SARASOTA-----	43	CASS-----	50
AUTAUGA-----	59	OSCEOLA-----	40	HOWARD-----	50
BLOUNT-----	55			PUTNAM-----	49
ETOWAH-----	54			HANCOCK-----	49
CHEROKEE-----	52	GEORGIA		BOONE-----	47
MONTGOMERY-----	52	CLARKE-----	100	MORGAN-----	47
MADISON-----	51	SCHLEY-----	98	ELKHART-----	46
ESCAMBIA-----	49	HEARD-----	96	RIPLEY-----	46
MOBILE-----	47	MCDUFFIE-----	95	LAWRENCE-----	44
MORGAN-----	46	JEFFERSON-----	94	POSEY-----	43
TALLADEGA-----	45	MACON-----	93	STEUBEN-----	42
MARSHALL-----	44	TATTNALL-----	88	DUBOIS-----	41
CONECUA-----	43	DE KALB-----	85	CLARK-----	40
BULLOCK-----	41	LEE-----	85	WELLS-----	40
MARTON-----	41	NEWTON-----	85		
		TWIGGS-----	85	IOWA	
ARIZONA					
ARIZONA DATA, INC.-----	57	WALTON-----	83	WEBSTER-----	70
		SUNTER-----	81	DALLAS-----	67
		BROOKS-----	80	STORY-----	63
		CRAWFORD-----	80	SCOTT-----	58
		DAWSON-----	80	JASPER-----	53
		HOUSTON-----	80	WARREN-----	52
		PEACH-----	80	FREMONT-----	50
FAULKNER-----	42	TIFF-----	80	POLK-----	50
CONWAY-----	40	JONES-----	76	BUENA VISTA-----	47
		MITCHELL-----	76	MUSCATINE-----	47
		THOMAS-----	76	HAMILTON-----	44
		CARROLL-----	75	BOONE-----	42
		GWINNETT-----	72	DES MOINES-----	42
		HENRY-----	70	HUMBOLDT-----	41
SHASTA-----	84	RICHMOND-----	70		
SANTA BARBARA-----	81	BURKE-----	62	KANSAS	
FRESNO-----	75	BARROW-----	60	DECATUR-----	95
MADERA-----	72	FLOYD-----	60	MEADE-----	95
NORTH RAY-----	69	GRADY-----	60	ELLIS-----	88
SAN JOAQUIN-----	65	HART-----	60	CHAUTAUQUA-----	83
TULARE-----	65	LUMPKIN-----	60	SALINE-----	68
MERCED-----	59	MORGAN-----	60	SUMNER-----	60
KERN-----	58	WHITE-----	60	DICKINSON-----	50
DEL NORTE-----	57	WHITFIELD-----	55	LOGAN-----	49
STANT SLAUS-----	54	COOK-----	55	SEDGWICK-----	49
SOUTHERN COUNTIES-----	51	FAYETTE-----	55	GREENWOOD-----	48
YURA-SUTTER-----	49	BULLOCH-----	50	LINCOLN-----	48
NORTH CENTRAL VALLEY-----	46	JEFF DAVIS-----	50	MARION-----	47
PLACER-NEVADA-----	43	WORTH-----	50	RAWLINS-----	46
CENTRAL COAST COUNTIES-----	41	COLOUITT-----	47	HARPER-----	45
GLEN-----	40	CCFFEE-----	46	HARVEY-----	45
		COMETA-----	45	MORRIS-----	45
COLORADO					
DELTA-----	67	JASPER-----	43	PAWNEE-----	45
CENTRAL COLORADO-----	44	SPALDING-----	40	PRATT-----	45
MONTROSE-----	43	CATOOSA-----	40	FRANKLIN-----	44
MESA-----	40	OCONEE-----	40	RICE-----	44
		WILCOX-----	40	ALLEN-----	43
				BARTON-----	43
				WICHITA-----	43
				RENO-----	40
CONNECTICUT					
TOLLAND-----	85	HAWAII	78		
HARTFORD-----	52			KENTUCKY	
NEW HAVEN-----	51			FAYETTE-----	64
LITCHFIELD-----	50	ILLINOIS			
NEW LONDON-MIDDLESEX-----	43	MONROE-----	78	LOUISIANA	
		BROWN-----	77	RAPIDES-----	95
DELAWARE					
NEW CASTLE-----	41	KENDALL-----	67	BIENVILLE-----	85
		SANGAMON-----	66	MOREHOUSE-----	78
FLORIDA					
COLUMBIA-----	100	CLARK-----	58	SABINE-----	72
PUTNAM-----	100	CHAMPAIGN-----	56	WEST CARROLL-----	72
ST. JOHNS-----	100	FAYETTE-----	56	EAST BATON ROUGE-----	69
WASHINGTON-----	100	LAWRENCE-----	55	FRANKLIN-----	66
GILCHRIST-----	95	RICHLAND-----	52	OUACHITA-----	66
ORANGE-----	83	MCLEAN-----	45	WEST BATON ROUGE-----	66
JEFFERSON-----	80	STARK-----	42	UNION-----	62
LAKE-----	75	DE KALB-----	42	EAST FELICIANA-----	61
		LAKE-----	42	IBERIA-----	52
		ST. CLAIR-----	42		
		BOND-----	41		
		HENDERSON-----	41		
		MASON-----	41		
		MERCER-----	40		

SEE FOOTNOTES AT END OF TABLE.

TABLE 12.—ASSOCIATIONS BY STATES WITH 40 PERCENT OR MORE COWS INCLUDED IN THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977 (CONTINUED) 1/

STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP
PCT		PCT		PCT	
LOUISIANA (CONTINUED)					
ACADIA	51	CARTER	63	NEW YORK (CONTINUED)	
BOSSTER	51	JACKSON	59	MONROE	43
RICHLAND	46	LINCOLN	50	MADISON	40
ST. LANDRY	41	ST. FRANCOIS	50		
MATINE		JOHNSON	47	NORTH CAROLINA	
OXFORD	66	BATES	45	FRANKLIN	100
CUMBERLAND	60	CAPE GIRARDEAU	41	HOKE	100
ANDROSCOGGIN	51	LAWRENCE	41	LEE	100
SOMERSFT	44			NASH	100
WALDO	43	MISSOURI		ONSMOW	100
YORK	42	LEWIS & CLARK	81	SWAIN	100
MARYLAND		FLATHEAD	63	PITT	100
PRINCE GEORGE'S	100	GALLATIN	52	LENOIR	95
ANNE ARUNDEL	98	YELLOWSTONE	40	ORANGE	87
DORCHESTER	89			WAKE	84
CECIL	57	NEBRASKA		COLUMBUS	84
HOWARD	53	KEITH	59	STOKES	81
MARVA ASS'N.	51	JOHNSON	56	CUMBERLAND	80
ALLEGANY	49	CASS	52	HENDERSON	78
HARFORD	49	JEFFERSON	51	CASWELL	78
CARROLL	46	THAYER	48	BUNCOMBE	75
KPNT	45	DODGE	46	BLADEN	73
MONTGOMERY	45	BOX BUTTE	45	ALAMANCE	72
GARRETT	44	GAGE	43	GUILFORD	71
QUEEN ANNES	43	RICHARDSON	41	RANDOLPH	68
TALBOT	41			WARREN	68
MASSACHUSETTS		NEVADA		DURHAM	65
FRANKLIN	46	CLARK	95	ROCKINGHAM	64
HAMPDEN	45	CHURCHILL	56	RUTHERFORD	64
BERKSHIRE	42	DCUGLAS	55	YADKIN	61
MICHIGAN				MONTGOMERY	61
BARRY	54	NEW HAMPSHIRE		CHATHAM	60
SHIAWASSEE	51	SULLIVAN	60	CLEVELAND	59
ANTRIM	50	STRAFFORD	48	GASTON	59
CALHOUN	50	GRAFTON	47	HYDE	59
GRAND TRAVERSE	48	MERRIMACK-BELKNAP	46	SURRY	59
LENAWEE	47	CHESHIRE	43	DAVIDSON	58
GRATIOT	46	ROCKINGHAM	42	WILSON	54
MISSAUKEE	45	HILLSBOROUGH	41	HAYWOOD	52
HILLSDALE	44			PERSON	52
KENT	43	NEW JERSEY 2/		MECKLENBURG	51
NEWAYGO	43	BURLINGTON-MONMOUTH	48	LINCOLN	49
ST. JOSEPH	43			MADISON	48
BRANCH	42	NEW MEXICO		FORSYTH	47
INGHAM	42	CHAVES	95	WAYNE	47
OCEANA	42	DONA ANA	95	HARNETT	46
CLINTON	42	OTERO	86	HALIFAX	46
MINNESOTA	41	SIERRA	74	GRANVILLE	45
RAMSEY	100	VALENCIA	73	IREDELL	44
FENNEPIN	57	BERNALILLO	68	STANLY	44
MARTIN	57			BEAUFORT	44
OLMSTED	53	NEW YORK		CATAWBA	43
WASHINGTON	47	YATES	70	DAVIE	42
GOODHUE	46	COLUMBIA	64	EDGECOMBE	41
DAKOTA	42	DUTCHESS	62	UNION	41
FARIBAULT	40	SENECA	59		40
MISSISSIPPI 2/		TOMPKINS	58	OHIO	
HINDS	100	ONTARIO	56	MARION	58
LAMAR	98	SCHOHARIE	55	MADISON	55
GEORGE	73	DELAWARE	52	LORAIN	54
RANKIN	56	LIVINGSTON	51	WAYNE	53
MARTIN	48	WAYNE	51	COLUMBIANA	51
MONTGOMERY	46	ONDONDARA	50	ASHLAND	49
PIKE	46	CAYUGA	49	ALLEN	48
		MONTGOMERY-FULTON	47	PAULDING	48
		CHENANGO	45	WARREN	48
		OREANS	44	FAYETTE	45
		SCHUYLER	44	FULTON	45
		CHAUTAUQUA	43	RICHLAND	45
		CORTLAND	43	TUSCARAWAS	45
				HURON	45
				VAN WERT	44
				ERIE	44
				HAMILTON	43
				PORTAGE	43
				LOGAN	42
				WILLIAMS	41
				AUGLAIZE	41
				HANCOCK	40
				PICKAWAY	40

SEE FOOTNOTES AT END OF TABLE.

TABLE 12.--ASSOCIATIONS BY STATES WITH 40 PERCENT OR MORE COWS INCLUDED IN THE NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM, JANUARY 1, 1977 (CONTINUED) 1/

STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP	STATE AND ASSOCIATION	COWS ENROLLED IN NCDHIP
	PCT		PCT		PCT
OKLAHOMA 2/					
ATOKA	100	MARLBORO	44	BRUNSWICK	59
PITTSBURG	100	ATKEN	43	SMYTH	59
GRANT	80	YORK	42	FAUQUIER	58
CARTER	66			GOOCHLAND	57
ALFALFA	55			NOTTOWAY	57
CUSTER	40	SOUTH DAKOTA		CULPEPER	56
GREEN	30	BUTTE	59	WASHINGTON	56
LINCOLN	50	JACKSON	56	WYTHE	56
MONTGOMERY	50	LAWRENCE	42	MIDDLESEX	55
WASHINGTON	50	PENNINGTON	42	LOUDOUN	53
WOODWARD	50			MECKLENBURG	52
ROGER MILLS	48			AMHERST	51
KAY	44			CITY OF VA. BEACH	51
TURKANA	41	TEXAS		MONTGOMERY	49
OSAGE	41	CAMERON	100	KING WILLIAM	48
ROGERS	40	HIDALGO	70	ROCKINGHAM	48
TEXAS	40	MILAM	66	ALBEMARLE	47
OREGON					
JOSEPHINE	53	WICHITA	65	FLUVANNA	46
POLK	75	KENDALL	57	RICHMOND	46
BENTON	65	BURLFSEN	52	BEDFORD	45
KLAMATH	60	DEAF SMITH	52	APPOMATTOX	44
WASHINGTON	60	COLLIN	50	PITTYSYLVANIA	44
YAMhill	60	VICTORIA	48	BOTETOURT	41
LANE	55	ARCHER	40		
MARION	55	WILLIAMSON	40	WASHINGTON	
CLACKAMAS	50			CLALLAM	80
CLAYTON	50	UTAH 2/		KITTITAS	80
UNION	50	SAMPETE	80	WAHKIAKUM	65
JACKSON	45	UTAH	80	CLARK-COWLITZ	62
TILLAMOOK	45	MEBER	72	PIERCE	60
LINN	40	SALT LAKE	70	SKAGIT-ISLAND	60
MULTNOMAH	40	DAVIS	65	MID COLUMBIA	58
PENNSYLVANIA					
POTTER	62	SUMMIT	57	SNOHOMISH	55
MONTGOMERY-PHILADELPHIA	61	MASATCH	56	THURSTON-MASON	52
BLAIR	60	BEAVER	54	GRAYS HARBOR	50
HUNTINGDON	57	MORGAN	52	PACIFIC	50
CENTER	54	CACHE	47	SPOKANE-STEVENS	50
CAUPHIN	53	EMERY	43	KING	48
MARSH	53	HILLARD	42	LEWIS	45
LUZERNE	53			WHATCOM	41
CLINTON	49	VERMONT		COLUMBIA BASIN	40
LANCASTER	47	BENNINGTON	58		
BRAZDOR	46	WINDSOR	56	WEST VIRGINIA	
JUNIATA	46	ORANGE	46	MASON	72
BEDFORD	43	WASHINGTON	46	JEFFERSON	71
SOMERSET	43			GREENBRIER	61
MCKEAN	42	ISLE OF WIGHT	100	MONROE	60
PERRY	42	NELSON	100	RANDOLPH	53
NORTHUMBERLAND	41	SUFFOLK	100	PRESTON	48
CHESTER-DELAWARE	40	WESTMORELAND	100		
MIFFLIN	40	KING GEORGE	99	WISCONSIN	
SOUTH CAROLINA					
CALHOUN	73	CHARLOTTE	97	FLORENCE	71
CLARENCEON	73	CITY OF CHESAPEAKE	94	KENOSHA	49
SALUDA	73	HANOVER	84	MANITOWOC	49
CRANGFURG	72	ROCKBRIDGE	84	DOOR	45
GREENWOOD	71	PATRICK	83	WINNEBAGO	44
BAMBERG	69	FAIRFAX	77	JACKSON	42
GREENVILLE	69	MADISON	77	JEFFERSON	42
NEWBERY	69	PULASKI	75	ROCK	42
SUMTER	67	CAMPBELL	74	WALWORTH	42
LAURENS	65	GREENE	71	ST. CROIX	41
RICHELAND	65	JAMES CITY	70	SHEBOYGAN	41
LEE	64	CLARKE	68	BARRON	40
CARLISLETON	63	ORANGE	66		
LEXINGTON	57	FRANKLIN	65	WYOMING	
ANDERSON	55	HENRICO	64	SHERIDAN	72
JASPER	55	PENNATAN	64	LARAMIE	71
FLORENCE	51	AMELIA	63	ALBANY	55
HAMPTON	49	PRINCE WILLIAM	63	PARK	47
ABBEVILLE	47	SOUTHAMPTON	61		
FATFIELD	47	SHENANDOAH	61		
PICKENS	47	SPOTSYLVANIA	60		
		CHARLOTTE	60		
		HALIFAX	60		
		ROANOKE	60		

1/ ASSOCIATIONS MAY BE COUNTY, MULTICOUNTY, OR CITY UNITS.
2/ DATA ARE FROM JANUARY 1, 1976 PARTICIPATION REPORT.

TABLE 13.—EXTENSION DAIRYMEN ADVISING ON THE DAIRY HERD IMPROVEMENT PROGRAM IN EACH STATE AS OF JANUARY 1, 1977

ALABAMA	CHARLES D. GRIFFIN, DAIRY SCIENCE DEPT., AUBURN UNIVERSITY, AUBURN 36830.
ALASKA	ARTHUR L. BRUNDAGE, EXPERIMENT STATION RESEARCH STAFF, UNIVERSITY OF ALASKA, PALMER 99645.
ARIZONA	DENNIS V. ARMSTRONG, DEPT. OF DAIRY SCIENCE, UNIVERSITY OF ARIZONA, TUCSON 85721.
ARKANSAS	LANTIS RATCLIFF, ANIMAL INDUSTRY & VETERINARY SCIENCE DEPT., UNIVERSITY OF ARKANSAS, LITTLE ROCK 72203.
CALIFORNIA	FRANK D. MURRILL, EXTENSION SERVICE, UNIVERSITY OF CALIFORNIA, DAVIS 95616.
COLORADO	DAWSON C. JORDAN, ANIMAL SCIENCE DEPT., COLORADO STATE UNIVERSITY, FORT COLLINS 80521.
CONNECTICUT	ROBERT H. BENSON, ANIMAL INDUSTRIES DEPT., UNIVERSITY OF CONNECTICUT, STORRS 06268.
DELAWARE	W. R. HESSELTINE, ANIMAL AND POULTRY SCIENCE DEPT., UNIVERSITY OF DELAWARE, NEWARK 19711.
FLORIDA	DANIEL W. WEBB, DAIRY SCIENCE BLDG., UNIVERSITY OF FLORIDA, GAINESVILLE 32601.
GEORGIA	W. HARDY MCKINNEY, ANIMAL INDUSTRY DIVISION, UNIVERSITY OF GEORGIA, ATHENS 30601.
HAWAII	STEVEN E. OLBRICH, ANIMAL SCIENCE DEPT., UNIVERSITY OF HAWAII, HONOLULU 96822.
IDAHO	RICHARD H. ROSS, AGRICULTURAL SCIENCE BLDG., UNIVERSITY OF IDAHO, MOSCOW 83843.
ILLINOIS	GERHARD W. HARPESTAD, DAIRY SCIENCE DEPT., UNIVERSITY OF ILLINOIS, URBANA 61801.
INDIANA	WILLARD M. DILLON, DEPT. OF ANIMAL SCIENCES, PURDUE UNIVERSITY, LAFAYETTE 47907.
IOWA	DONALD E. VOELKER, ANIMAL & DAIRY SCIENCE DEPT., IOWA STATE UNIVERSITY, AMES 50010.
KANSAS	E. RALPH BONEWITZ, DAIRY SCIENCE DEPT., KANSAS STATE UNIVERSITY, MANHATTAN 66502.
KENTUCKY	KENNETH E. OLSON, DAIRY SCIENCE DEPT., UNIVERSITY OF KENTUCKY, LEXINGTON 40506.
LOUISIANA	JAMES F. BEATTY, LSU COOP. EXTENSION SERVICE, KNAPP HALL, UNIVERSITY STATION, BATON ROUGE 70803.
MAINE	CALVIN K. WALKER, ANIMAL SCIENCE DEPT., UNIVERSITY OF MAINE, ORONO 04473.
MARYLAND	J. LEE MAJESKIE, JULL HALL, DAIRY SCIENCE DEPT., UNIVERSITY OF MARYLAND, COLLEGE PARK 20742.
MASSACHUSETTS	STONIE J. LYFORD, JR., VETERINARY & ANIMAL SCIENCES DEPT., UNIVERSITY OF MASSACHUSETTS, AMHERST 01003.
MICHIGAN	MARTIN A. WILSON, DAIRY DEPT., MICHIGAN STATE UNIVERSITY, EAST LANSING 48823.
MINNESOTA	J. WILLIAM MUDGE, ANIMAL SCIENCE DEPT., UNIVERSITY OF MINNESOTA, ST. PAUL 55101.
MISSISSIPPI	GEORGE B. CRAIN, DAIRY SCIENCE DEPT., MISSISSIPPI STATE UNIVERSITY, STATE COLLEGE 39762.
MISSOURI	REX E. RICKETTS, DAIRY HUSBANDRY DEPT., UNIVERSITY OF MISSOURI, COLUMBIA 65201.
MONTANA	B. R. MOSS, DEPT. OF ANIMAL SCIENCE & RANGE MANAGEMENT, MONTANA STATE COLLEGE, BOZEMAN 59715.
NEBRASKA	PHILLIP H. COLE, ANIMAL SCIENCE DEPT., UNIVERSITY OF NEBRASKA, LINCOLN 68503.
NEVADA	ALFRED W. NORMAN, ANIMAL SCIENCE DEPT., UNIVERSITY OF NEVADA, RENO 89507.
NEW HAMPSHIRE	JOHN S. PIWOWAR, ANIMAL SCIENCE DEPT., UNIVERSITY OF NEW HAMPSHIRE, DURHAM 03824.
NEW JERSEY	EDWARD T. OLESKIE, ANIMAL SCIENCE DEPT., RUTGERS UNIVERSITY, NEW BRUNSWICK 08903.
NEW MEXICO	J. BORDEN ELLS, DAIRY DEPT., NEW MEXICO STATE UNIVERSITY, LAS CRUCES 88001.
NEW YORK	HARRY R. AINSLIE, ANIMAL SCIENCE DEPT., CORNELL UNIVERSITY, ITHACA 14850.
NORTH CAROLINA	FRANK D. SARGENT, ANIMAL SCIENCE DEPT., NORTH CAROLINA STATE UNIVERSITY, RALEIGH 27607.
NORTH DAKOTA	GEORGE R. FISHER, DAIRY HUSBANDRY DEPT., NORTH DAKOTA STATE UNIVERSITY, FARGO 58102.
OHIO	ROBERT M. PORTER, DAIRY SCIENCE DEPT., OHIO STATE UNIVERSITY, COLUMBUS 43210.
OKLAHOMA	JACK D. STOUT, DEPT. OF DAIRYING, OKLAHOMA STATE UNIVERSITY, STILLWATER 74074.
OREGON	DONALD E. ANDERSON, 256 WARNER-MILNE RD., OREGON CITY 97045.
PENNSYLVANIA	HERBERT C. GILMORE, DAIRY SCIENCE DEPT., PENNSYLVANIA STATE UNIVERSITY, UNIVERSITY PARK 16802.
PUERTO RICO	J. L. VALE-SALINAS, AGR. EXTENSION SERVICE, BOX AR, UNIVERSITY OF PUERTO RICO, RIO PIEDRAS 00928.
RHODE ISLAND	JAMES W. COBBLE (ACTING), DAIRY SCIENCE DEPT., UNIVERSITY OF RHODE ISLAND, KINGSTON 02881.
SOUTH CAROLINA	GEORGE E. GRAMLING, DAIRY SCIENCE DEPT., CLEMSON UNIVERSITY, CLEMSON 29631.
SOUTH DAKOTA	MYERS OWENS, DAIRY SCIENCE DEPT., SOUTH DAKOTA STATE UNIVERSITY, BROOKINGS 57006.
TENNESSEE	V. D. PARSONS, DAIRY DEPT., UNIVERSITY OF TENNESSEE, P. O. BOX 1071, KNOXVILLE 37901.
TEXAS	MICHAEL A. TOMASZEWSKI, HERMAN HEEP BLDG. - RM. 110-C, TEXAS A & M UNIVERSITY, COLLEGE STATION 77843.
UTAH	WALLACE R. TAYLOR, DAIRY SCIENCE DEPT., UTAH STATE UNIVERSITY, LOGAN 84321.
VERMONT	WILLIAM P. LEAMY, ANIMAL & DAIRY SCIENCE DEPT., UNIVERSITY OF VERMONT, BURLINGTON 05401.
VIRGINIA	WILLIAM N. PATTERSON, DAIRY SCIENCE DEPT., VIRGINIA POLYTECHNIC INSTITUTE, BLACKSBURG 24061.
WASHINGTON	BILL F. KELSO, WESTERN WASHINGTON RESEARCH AND EXTENSION CENTER, WASH. STATE UNIV., PUYALLUP 98371.
WEST VIRGINIA	R. O. KELLEY, ANIMAL INDUSTRY & VETERINARY SCIENCE DEPT., WEST VIRGINIA UNIVERSITY, MORGANTOWN 26506.
WISCONSIN	EUGENE E. STARKEY, DAIRY SCIENCE DEPT., UNIVERSITY OF WISCONSIN, MADISON 53706.
WYOMING	BARRY J. STEEVENS, BOX 3354, UNIVERSITY STATION, LARAMIE 82071.